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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,141	11/22/2000	Neelamadhaba Mahapatro	44431/233237 (JA13237-153	7049

7590 06/20/2003

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EXAMINER	
IRSHADULLAH, M	
ART UNIT	**PAPER NUMBER**
3623	

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/721,141	Applicant(s) MAHAPATRO, NEELAMADHABA	
	Examiner M. Irshadullah	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *40-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *40-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *23* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 04, 2003 has been entered.

2. This communication is in response to amendments filed June 04, 2003.

Summary Of Instant Office Action

3. Applicant's arguments regarding claims 40 and 43-48 rejected under 35 USC 102 and claims 41, 42 and 49 rejected under 35 USC 103, Paper No. 20, Office Action mailed March 04, 2003 have been considered and are new Office Action is set out below.

4. Amendments to claims 40, 43 and 44 have been entered.

Claim Rejections - 35 USC § 101

4a. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4b. The invention as claimed in claims 4042 is directed to non-statutory subject matter. Because, for a claimed invention to be statutory, the claimed invention must be within the technological arts and provide a concrete tangible result. The claims provide concrete tangible result, yet they recite no form of technology, such as computer.

4c. Claims 40-42 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In regard to claims 40-42 the independent claim 40 do not fall within the technological arts because no form of technology, such as computer is claimed. It is observed that the claimed invention is directed to nothing more than a human being making, for instance in claim 40, mental computations or manipulation. Similar reasoning holds for other claims.

Therefore, claims 40-42 since deemed to be non-statutory, are rejected under 35 U.S.C. 101 and dependent claims are rejected as such in view of their dependency from their respective independent claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 40-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deziel, Jr. et al (US Patent 5,406,476) in view of Hughes et al (US Patent 5,893,074). Deziel et al disclose:

Claim 40. (Newly Submitted) A method for generating a plurality of individually schedulable assignments for a task, based upon task constraints associated with said task, said task constraints identifying N resources assigned to said task where N is a positive integer, and a required work-amount corresponding to each of said N resources, steps comprising the steps of:

e) determining assignments that have task constraints (Col. 10, lines 33-35 read with col. 9, lines 62-65 and 65-68, wherein activity (assignment) A were considered (determined) to have constraints: least amount of slack and least resources utilization);

f) scheduling the assignments that have task constraints before assignments that independent of other assignments (Col. 9, lines 60-65, wherein of the two independent activities (assignments) A and B, A having above discussed constraints were being scheduled prior to (before) B and C, D, E);

g) scheduling the assignments that are independent of other assignments (Col. 10, lines 1-2. Here only one assignment or activity has been considered, however, the procedure would be used for more that one such activities or assignments); and

h) generating a schedule (comprising the N assignments, see discussion below) which is balanced and maximizes a utilization of the N resources (Fig. 3a (I, III, IV, V, VI, VII) described col. 9, line 46 through col. 10, line 20, and col. 9, lines 14-19, wherein citation of col. 9, line 46 to col. 10, line 20 the process of scheduling (generating a

schedule) activities (assignments) A-E and col. 9, lines 14-19 describe that in reference's preferred embodiment "holding queue" were utilized to prevent the production (generation) of less that optimal selection of activities for scheduling on the basis of least slack constraint. In other words, reference would have the capability of producing optimal (or closely optimal) or balanced schedule. The resultant schedule would be resource feasible (maximizes resource utilization) achievable within a prescribed confidence level (Abstract, lines 14-16));

In the following elements Deziel et al do not explicitly show following features; however, Hughes et al teach the same:

{a) dividing said task into N assignments, said task comprising an amount of work, each assignment comprising a portion of the work that corresponds with an individual resource (Fig. 1 (10, 14a-d broken into 15a-d), col. 5, lines 9-13 and lines 45-50 read with 63-67, wherein cited "smaller tasks" infer a part (portion) of larger task which is performed by each of the employees, termed as "contract" (corresponding to individual resource).

b) associating each of said N assignments with one of said N resources, each resource comprising one of an non-human and human object capable of performing an assignment (Col 6, lines 19-22, Fig. 1 (10, 15a-d), col. 3, lines 22-25 read with col. 4, lines 27-29 and col.1, lines 41-45. Applicant will appreciate that customarily/practically all personnel and equipment/machines/computers, area/space (human and nonhuman resources) would be included/assigned in/to the project because for their qualification

and capability to performing the job/work/project/task/assignment (capable of performing an assignment));

c) for each assignment, identifying the task, corresponding individual resource, and one of the portion of work corresponding to a respective resource and a duration of the assignment (Fig. 1 (15a-d), col. 6, line 17 recited with col. 5, lines 12-13, 45-50 and 63-67, col. 4, lines 27-29 and col. 11, lines 44-47)}.

It would have been obvious to one of ordinary skill in the project/task/assignment management at the time of Applicant's invention to incorporate Hughes et al's features into Deziel et al's invention, thereby providing a system which would allow to break projects or tasks into smaller tasks or activities (plurality of assignments) and schedule them optimally and fully (maximally) employing the available resources having constraints.

In the following claim Hughes et al do not explicitly show the recited features:

Claim 41. (Previously amended) The method of Claim 40, wherein said task constraints identify one or more scheduling constraints {comprising one of task priority (Deziel et al: Abstract, lines 5-6, wherein activities (tasks or assignments) are allocated in order of highest priority) and assignment limit (Abstract, lines 15-16, wherein scheduling an activity (assignment or task) which is "resource feasible and achievable" clearly indicates the claimed assignment limit constraint}, and further comprising the step of associating each of said N assignments with said scheduling constraints.

However, Deziel et al teach the same (Title, Abstract, lines 3-7, col. 1, lines 12-15, Figs. 3a and 3c described col 9, lines 46-68 continue col 10, lines 1-28 and 29-43). It would have been obvious to one of ordinary skill in the project/task/assignment scheduling to incorporate Deziel et al's features into Hughes et al's invention, because it would provide an efficient method for scheduling resources amongst the various activities in light of the attendant resource and activity constraints.

In the following claim:

Claim 42. (Previously Amended) The method of Claim 40, wherein said task constraints identify one or more scheduling constraints {comprising one of task priority and assignment limit (See the discussion in Applicant's claim 41 above)} and further comprising the step of associating each of said N assignments with said task being divided.

Hughes et al show:

divided tasks (tasks being divided) Fig. 1 (10, 15a-d, 14a-d), yet do not show task constraints identify one or more scheduling constraints and further comprising the step of associating each of said N assignments.

However, Deziel et al teach the same (Title, Abstract, lines 3-7, col 1, lines 12-15, Figs. 3a and 3c described col 9, lines 46-68 continue col 10, lines 1-28 and 29-43).

It would have been obvious to one of ordinary skill in the relevant art at the time of instant invention to incorporate Deziel et al's features into Hughes et al's invention,

because identification of a constraint to be used and associated with a task is the integral part of task scheduling process.

Claim 43. (Currently Amended) A computer-readable medium on which is stored a computer program for generating a plurality of schedulable assignments for a task (Fig. 5 described col 11, lines 9-32 (specifically lines 17-19), Title, Abstract, lines 1-2, col 3, lines 29, 40-43), said program performing the steps comprising:

a) receiving a task description for said task, said task description identifying N resources assigned to said task where N is a positive integer, said task comprising an amount of work, a required work-amount corresponding to each of said N resources, and one or more scheduling constraints for said task (Col 2, lines 17-19, col 5, lines 30-32 recited with col 5, lines 10-13, 46-50, col 11, lines 44-47);

b) dividing said task into N assignments, each of said N assignments identifying one of said N resources, each assignment comprising a portion of the work that corresponds with an individual resource, each resource comprising one of an non-human and human object capable of performing an assignment (See discussion of Applicant's claims 1a) and 1b) above);

c) for each assignment, identifying the task, corresponding individual resource, and one of the portion of work corresponding to a respective resource and a duration of the assignment (See discussion of Applicant's claim 1c) above));

d) associating each of said N assignments with said scheduling constraints for said task (Col 6, lines 19-22, Fig. 1 (10, 15a-d), col. lines 9-11, wherein "smaller tasks"

infer claimed "assignments" and "delivery date, supplier's available delivery date with the product" point to "task constraints");

e) determining assignments that are independent of other assignments (See discussion of Applicant's claim 1d) above);

f) scheduling the assignments associated with scheduling constraints before assignments that are independent of other assignments (See discussion of Applicant's claim 1f) above);

g) scheduling the assignments that are independent of other assignments (See discussion of Applicant's claim 1g) above); and

h) generating a schedule comprising the N assignments which is balanced and maximizes a utilization of the N resources (See discussion of Applicant's claim 1h) above).

Claim 44. (Previously Amended) A computer system for generating assignments for a task, comprising:

a) a processing unit (Fig 1 (20));

b) a memory storage device (Fig. 1 (18));

c) a program module, stored in the memory storage device for providing instructions to the processing unit (Fig. 1, col 5, lines 16-26 (specifically lines 24-26));

d) the processing unit, responsive to the instructions of the program module (Fig. 1 (20), col 5, lines 4-6, 16-32), operative to:

e) receive a task description for the task, the task description identifying N resources assigned to the task where N is a positive integer, said task comprising an amount of work (See discussion of Applicant's claim 43a) above);

f) divide the task into N assignments, each of the N assignments identifying one of the N resources, each assignment comprising a portion of the work that corresponds with an individual resource, each resource comprising one of an non-human and human object capable of performing an assignment (See discussion of Applicant's claim 43b) above);

g) for each assignment, identify the task, corresponding individual resource, and one of the portion of work corresponding to a respective resource and a duration of the assignment (See discussion of Applicant's claim 43c) above);

h) associate each of said N assignments with said scheduling constraints for said task (See discussion of Applicant's claim 43d) above);

i) determining assignments that are independent of other assignments (See discussion of Applicant's claim 43e) above);

j) scheduling the assignments associated with scheduling constraints before assignments that are independent of other assignments (See discussion of Applicant's claim 43f) above);

k) scheduling the assignments that are independent of other assignments (See discussion of Applicant's claim 43g) above); and

l) generating a schedule comprising the N assignments which is balanced and maximizes a utilization of the N resources (See discussion of Applicant's claim 43h) above).

Claim 45. (Previously Amended) The computer system of Claim 44, wherein the processing unit is further operative to set a work-amount for each of the N assignments to the total amount of required work divided by N (Inherent, since breaking a project/task into an equal number of components/tasks/assignments one has to divide by a number, say N).

Claim 46. (Previously Amended) The computer system of Claim 44, wherein the task description includes an assignment limit for at least one of the N resources, and the processing unit is further operative to set a work amount for each of the N assignments in accordance with the assignment limits and in a manner that the summation of all of the work-amounts is equal to the total amount of required work (Col 2, lines 5-25, claim 8 read with col 13, lines 1-11 (specifically lines 1-4, 5-8)).

Claim 47. (Previously Amended) The computer system of Claim 44, wherein the task description includes one or more scheduling constraints for the task, and the processing unit is further operative to set a work-amount for each of the N assignments as a function of the scheduling constraints and in a manner that the summation of all of the work-amounts is equal to the total amount of required work (Col 11, lines 40-44 (

specifically lines 43-44), lines 44-47, claim 8 recited with col. 13, lines 1-11 (specifically lines 1-4, 5- 8)).

Claim 48. (Previously Amended) The computer system of Claim 44, wherein the task description includes one or more scheduling constraints for the task, and the processing unit is further operative to associate each of the N assignments with the scheduling constraints (Col 11, lines 40-44 (specifically lines 43-44), lines 44-47, col 6, lines 19, 20, 21 and 22 read with col 5, lines 9-13 and 46-50).

Claim 49. (Previously Amended) The computer system of Claim 44, wherein the task description includes one or more scheduling constraints for the task (Hughes et al: Col 11, lines 40-44 (specifically lines 43-44), lines 44-47), and the processing unit (Fig. 1 (20)) is further operative to:

associate each of the N assignments with the scheduling constraints (Hughes et al: Col 6, lines 19, 20, 21 and 22 and col 11, lines 44-47); and

In the undernoted element, Hughes et al do not show the following feature:

assign a priority to each of the assignments as a function of the scheduling constraints.

However Deziel et al teach the same (Abstract, line 6, col 8, lines 39-44 and discussion of Applicant's claim 41 above).

It would have been obvious to one of ordinary skill in the relevant art at the time of instant invention to incorporate Deziel et al's feature into Hughes et al's invention,

because assigning a priority would determine the order in which the task (assignment) be scheduled and done.

Response to Arguments

7. Applicant's arguments filed December 19, 2002 have been considered and are responded below.

Applicant in the Remake argues that:

a) Hughes et al describes and Deziel et al employs CPM scheduling (Page 10, lines 12-17 and page 11, lines 14-21 respectively).

In this regard it is observed that Hughes et al do not even mention alleged use of CPM scheduling. Deziel et al in col. 8, lines 42-44 clearly describes that : However, it will be obvious to one skilled in the art that other priority scheduling rules may also be utilized.

In the end, Applicant would like to consider the following:

In general, applicant's arguments fail to consider the full teachings of the references in light of the knowledge generally available to those in the appropriate art and the level of ordinary skill in this art. Moreover, applicant's arguments take an overly narrow view of the claim language.

The prior art relied upon in the rejection of the claims ought to be considered as a whole in order to appreciate and determine similarity or closeness of the systems under consideration, including the composition of contents and functions (or functionality) of the systems.

Then comes nomenclature, terminology and titling of the systems. The systems may be, and usually are, named, terminology used, titled differently by proponents or applicants, yet the component composition would be same or similar and they would be performing same or similar function(s).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner

should be directed to M. Irshadullah whose telephone number is (703) 308-6683. The examiner can normally be reached, M-F from 11:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached on (703) 305-9643. The fax numbers for the organization is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-3900.

M. Irshadullah

June 12, 2003

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